Policy and Internet

Editorial

Big Data and Public Policy: Can It Succeed Where E-Participation Has Failed?

Jonathan Bright and Helen Margetts

This editorial introduces a special issue resulting from a panel on Internet and policy organized by the Oxford Internet Institute (University of Oxford) at the 2015 International Conference on Public Policy (ICPP) held in Milan. Two main themes emerged from the panel: the challenges of high cost and low participation which many e-participation initiatives have faced; and the potential Big Data seems to hold for remedying these problems. This introduction briefly presents these themes and links them to the papers in the issue. It argues that Big Data can fix some of the problems typically encountered by e-participation initiatives: it can offer a solution to the problem of low turnout which is furthermore accessible to government bodies even if they have low levels of financial resources. However, the use of Big Data in this way is also a radically different approach to the problem of involving citizens in policymaking; and the editorial concludes by reflecting on the significance of this for the policymaking process.

KEY WORDS: electronic participation, big data, public policy, social media, government

Can e-participation technologies stimulate public involvement in the policy-making process; or do most e-participation initiatives result in low turnout and eventual frustration? Does Big Data offer a potential solution for this lack of public involvement, based on abundant data harvested from social media networks; or does the fact that Big Data is essentially co-opted into the service of public policy without the active consent of those contributing it undermine its usefulness in terms of creating meaningful participation? These twin themes came together in a panel on Internet and policy organized by the Oxford Internet Institute (University of Oxford) at the 2015 International Conference on Public Policy (ICPP) held in Milan;[1] and some of the best papers from that panel have now been published in a special issue of *Policy & Internet*.

In this brief editorial introduction to the issue, we will introduce the overarching themes of this debate (public involvement in policy; e-participation; and Big Data), and highlight how each of the articles in this special issue

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contributes. Based on the arguments of the authors, we will also put forward the thesis that the use of Big Data in policymaking improves on other forms of electronic participation in several respects: particularly, it offers a means of mass participation in policymaking, which is accessible to government bodies even if they have low levels of financial resources. However, this type of participation also brings with it novel challenges and difficulties, which previous e-participation initiatives have not had to face.

Increasing active public participation in the policy-making process has been a theme within public administration for a long time (Cupps, 1977); but one that is also becoming ever more important as styles of public management evolve (Bingham, Nabatchi, & O'Leary, 2005). Active participation is seen as being beneficial for policymaking in a variety of respects, especially in terms of enhanced decision making through better access to information (Lowndes, Pratchett, & Stoker, 2001, p. 211) and also in terms of producing policy which is more accepted by the groups of citizens it affects (Thomas, 1993).

The mass uptake of Internet technologies within society over the last 20 years has driven a wave of experimentation with new ways of implementing this citizen participation and thus realizing more of the benefits (Smith, Richards, & Gastil, 2015); such experimentation is of course one of the core publishing priorities of *Policy & Internet* (Margetts, 2009). This experimentation continues, and many of the articles in this special issue document further examples of efforts in a wide variety of different countries and contexts. As we will see below, however, the results of e-participation thus far are decidedly mixed: difficulties and inequalities in terms of facilitating access and provision exist, while results are often disappointing both for policymakers and citizens.

In this regard we will begin with Barros and Sampaio (2016), who present a study of citizen trust in Electronic Participatory Budgeting (e-PB). This style of citizen participation has received a considerable amount of academic attention, as it invites citizens not just to input into specific policy areas but to consider the difficult choices involved in balancing the budget as a whole. The authors analyze over 2,000 comments made on e-PB forums in Belo Horizonte in Brazil in two waves of budgeting processes in 2008 and 2011, finding that initial positive evaluations and feedback in 2008 gave way to a much more negative environment in 2011, with participation also falling by 80 percent. They attribute this to frustration with both the limited scope of suggested projects in 2011 and anger at a perceived failure to implement the winning projects of 2008. Overall the authors offer a cautionary tale for electronic participation enthusiasts: while, as they say, "dissatisfaction is characteristic of democratic decision-making processes," it appears clear that negative experiences with electronic participation initiatives in particular can radically undermine participation in the future.

The article by Lidén (2016) tackles similar themes at a more fundamental level, seeking to explain why some local government contexts in Sweden provide more opportunities for citizen engagement than others through a unique mixed methods study. Looking first at a large sample of municipalities, he shows how larger and more economically developed areas appear to have systematically

better opportunities for public participation, a result attributed to the fact that they are better able to bear the costs of investing in new technology. Picking out two extreme cases, he also finds that poor political leadership and poor demand from citizens play a further negative role. While Barros and Sampaio's article shows the difficulties of bringing about electronic participation successfully, Lidén's research highlights the multiple challenges involved in even getting started.

The work by De Blasio and Selva (2016) addresses a comparable question to Lidén's, but oriented toward the national level. Looking at France, Italy, the United Kingdom and Spain, they seek to describe how the open government movement has taken on different forms and priorities in different countries and contexts. They take a broad view of open government, addressing questions of transparency, openness to participation, and also digitization of government services. They show how in all countries transparency and digitization are rated as highly important when new open government initiatives are outlined; while participation and openness to collaboration lag behind. They argue provocatively that the open government agenda is essentially "stuck" focusing on transparency measures, which have a longer legal and political history, something which is perhaps impeding other visions of open government from being realized.

The article by Dumoulin and Licoppe (2016) takes a radically different approach to the involvement of Internet technology in mediating citizen–government interaction, by looking at the impact of the introduction of videoconferencing technology into the French justice system through the institution of "remote trials." Initially introduced to resolve a problem of a lack of judges in the small French overseas territory of Saint-Pierre-et-Miquelon, this technology has now been incorporated into the cost-cutting discourse of New Public Management, as it allows those charged with an offense or those providing testimony to attend a trial virtually rather than physically, thus reducing the cost of transporting them. In a sense this technology enhances and expands the possibilities for public participation in the judicial process; yet it also raises deep questions of fairness and justice in criminal proceedings, such as whether the video presence of a witness allows judgment of sincerity and credibility. Technology, in other words, may change a process in other ways even while it expands access and participation.

Finally, in the context of electronic participation, the article by Wentrup, Xu, Nakamura, and Ström (2016) addresses arguably the most fundamental question, which surrounds who has access to the technology in the first place. They look in particular at the spread of Internet technologies in Sub-Saharan Africa, asking whether the invisible hand of the market will work to roll out connectivity or whether active government intervention is required to address the "digital divide." In many ways echoing the conclusions of Lidén (who found political involvement to be crucial in creating opportunities for e-participation) they find that active government involvement is the only thing that seems to make a difference, particularly through a policy instrument called the Universal Service Fund.

To summarize therefore, this diverse set of articles on different aspects of electronic participation in three different continents bring together a number of

common themes. First, access is a fundamental part of e-participation, both in terms of access to the Internet itself (Wentrup et al., 2016) and the spread of and hence access to specific tools of participation (De Blasio & Selva, 2016; Lidén, 2016); and these articles show that this access is rolling out only in partial and highly unequal ways. Second, the introduction of technology into processes can change them (and not always for the better); and the reasons and rationales for these changes can be co-opted by very different political programs (Dumoulin & Licoppe 2016). Finally, involvement in electronic participation can be highly disappointing for citizens (rather than necessarily empowering): and e-participation initiatives which fail can also hamper participation in future projects (Barros & Sampaio, 2016).

Given the challenges experienced by e-participation initiatives, it is easy to explain the growing interest in a new form of enabling public participation in policymaking: the use of Big Data. Big Data as a term has attracted many different definitions in different contexts, but in this editorial at least it is taken to mean the creative application of large transactional data sets generated by the Internet (such as comments on social media) to the processes of policymaking. Big Data offers a lot of promise in terms of remedying some of the problems of e-participation. Social media technologies are already widely adopted by citizens, and do not need to be spread out to different contexts or locations. Hence, it seems that the smaller and poorer municipalities which Lidén describes might be able to replace expensive e-participation technologies with cheap and freely available social media data. Furthermore, on social media many citizens contribute their views on policy and politics without having to be stimulated or encouraged by a specific e-participation initiative. They hence offer a potential solution to the low participation problem highlighted by Barros and Sampaio.

The article by Severo, Feredj, and Romele (2016) takes up the promise of Big Data for policy by looking at the use of Twitter data in urban policymaking, but also by highlighting in general the wide variety of data sources potentially open to policymakers, from Facebook and Flickr to Wikipedia and OpenStreetMap. The authors propose a new term, "Soft Data," as a means of defining these diverse sources and highlighting their difference from traditionally collected administrative statistics. However, despite highlighting the possibilities, they also highlight many limitations with this data: widely available, but perhaps biased and unrepresentative; often made available cheaply, but sometimes with restrictive licenses on re-use; created in a bottom-up, open to all fashion, but hence also open to fraud and distortion. Interview research also highlighted how few local cities were actually making use of the data: much more, in other words, remains to be done for Big Data to be integrated into the policymaking process.

Of course, Big Data for government is not held solely by social media platforms. Indeed, governments themselves hold significant quantities of administrative data, which can also be repurposed and made use of through the movement towards "open data." This is a theme addressed by Viscusi and Batini (2016), who apply the technique of conceptual modeling to understand information assets held by public administration (as discussed above, the theme of open

data is also already addressed by De Blasio and Selva, 2016). They discuss in particular appropriate methods for helping administrators to choose which data sets to publish, showing in particular how social values can be prioritized over technical ones. This line of work is particularly important considering that public administrators face a huge choice when deciding what data to make open, and research has shown that only a small fraction of published data is ever used (Bright, Margetts, Wang, & Hale, 2015).

If the above works show that many challenges remain in implementing the Big Data vision (both with social media data and open government data), the paper by Ceron and Negri (2016) gives a taste of what could be achieved.[2] This article deploys a technique called Supervised Aggregated Sentiment Analysis to show how Twitter data could be used to stimulate interaction between politicians, civil servants, and the general public during the policy-making cycle. Making use of two case study policies from Italy, they show how Twitter could be used to both choose between different options when formulating policy and to provide an insight into citizen opinion during the phase of policy implementation. These data can also be used to show how and when opposition groups organize and mobilize; and whether proposed changes or amendments to policy can be successful in heading off discontent. Crucially, the authors validate their results with existing survey data, showing that social media does not appear to produce a distorted overall view of the general public mood.

By way of conclusion, it is worth reflecting on the potential consequences of a Big Data approach to policymaking, proposed here especially by Severo et al. (2016) and Ceron and Negri (2016), in terms of the original motivations for bringing the public into the policy-making process which we highlighted above. The first of these was enhancing decision making by providing information on public opinion. It seems clear that Big Data offers a significant potential in this regard which many e-participation initiatives have so far failed to deliver: large scale data on a whole range of public issues, which is relatively cheaply available. Severo et al. (2016) rightly caution that this data is not completely free: and it may well have copyright or intellectual property restrictions, as well as costing something to purchase; they also highlight that there is a risk of bias (though Ceron and Negri [2016] suggest this can be overcome). But even with these caveats the potential is considerable.

The second motivation for bringing the public into the policy-making process, however, was to increase public acceptance of policies. In this regard, it should be remembered that social media and other types of Big Data are essentially "passively" contributed: people might voice their opinions on politics and policy, but not necessarily expect them to be picked up and aggregated into the policy-making process. This type of passive contribution contrasts strongly with mechanisms such as e-PB: where citizens make a deliberate decision to sign up to a forum and then make a conscious choice between policies. Hence while Big Data might have the potential to improve policy decision making, it will not by default increase public acceptance of policies which are developed, because citizens will not necessarily realize that they have been involved in the policy-

making process. Only if this aspect can be remedied—if participation in Big Data can be something which citizens themselves see as a means of actively contributing to the policy process—will Big Data truly show potential for replacing e-participation as a way of involving citizens in public policy.

Jonathan Bright, **Ph.D.,** Research Fellow, Oxford Internet Institute, University of Oxford [jonathan.bright@oii.ox.ac.uk].
Helen Margetts, **Ph.D.,** Professor of Society and the Internet, Oxford Internet Institute, University of Oxford.

Notes

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1. See http://www.icpublicpolicy.org/-Milan-2015.
2. This article was presented at the ICPP 2015 conference, but was published in a previous issue of *Policy & Internet*.

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